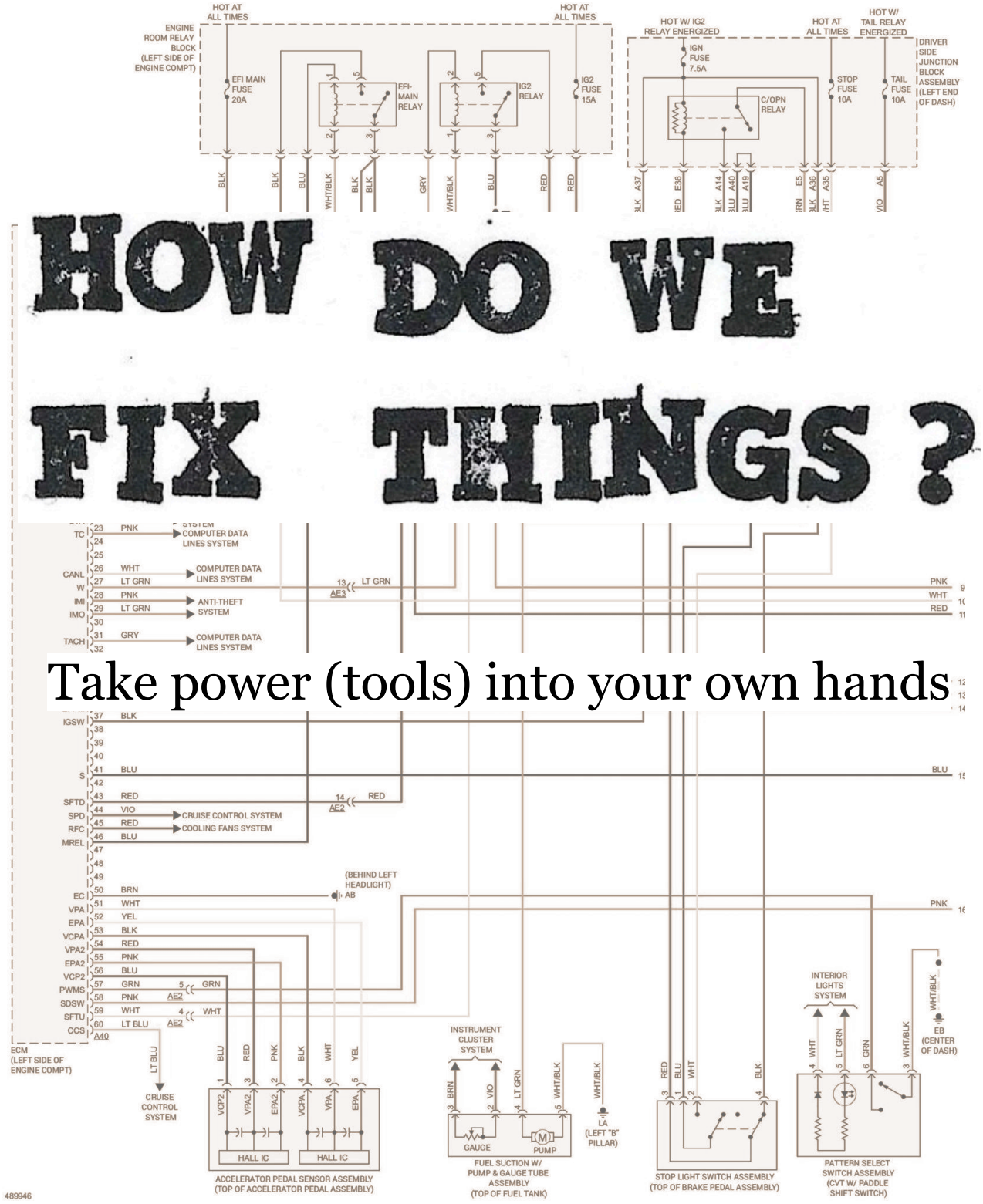

HOT AT ALL TIMES
HOT AT ALL TIMES
ENGINE ROOM RELAY BLOCK (LEFT SIDE OF ENGINE COMPT)
EFI MAIN FUSE 20A
EFI-MAIN RELAY
IG2 RELAY
IG2 FUSE 15A
HOT W/ IG2 RELAY ENERGIZED
HOT AT ALL TIMES
HOT W/ TAIL RELAY ENERGIZED
IGN FUSE 7.5A
C/OPN RELAY
STOP FUSE 10A
TAIL FUSE 10A
DRIVER SIDE JUNCTION BLOCK ASSEMBLY (LEFT END OF DASH)
HOW DO WE
FIX THINGS ?
COMPUTER DATA LINES SYSTEM
ANTI-THEFT SYSTEM
CRUISE CONTROL SYSTEM
COOLING FANS SYSTEM
(BEHIND LEFT HEADLIGHT)
ECM (LEFT SIDE OF ENGINE COMPT)
CRUISE CONTROL SYSTEM
HALL IC
HALL IC
ACCELERATOR PEDAL SENSOR ASSEMBLY (TOP OF ACCELERATOR PEDAL ASSEMBLY)
INSTRUMENT CLUSTER SYSTEM
GAUGE
PUMP
FUEL SUCTION W/ PUMP & GAUGE TUBE ASSEMBLY (TOP OF FUEL TANK)
LA (LEFT "B" PILLAR)
STOP LIGHT SWITCH ASSEMBLY (TOP OF BRAKE PEDAL ASSEMBLY)
INTERIOR LIGHTS SYSTEM
EB (CENTER OF DASH)
PATTERN SELECT SWITCH ASSEMBLY (CVT W/ PADDLE SHIFT SWITCH)
489946

Take power (tools) into your own hands

By Sid Francis

NO ONE IS GOING TO FIX THE WORLD FOR US

This zine is as much about basic auto maintenance as it is about politics in the world today. I'm not an expert in either. But since going back to mechanic school, I've been thinking a lot about how to fix broken things. Of course, practical skills can help you save money, escape the cycle of waste and consumption, and extend the life of your stuff. But that's hardly the most pressing issue of the day: the wealth divide is growing, fascism is on the rise and climate catastrophe is coming (or, depending on who you ask, already here). Whether or not we can darn our own socks or change our oil might seem trivial, or rooted in nostalgia for some bygone era. I'm certainly not calling for a RETVRN[1] to the past, with all the white-supremacist notions that come with it. And fixing things may be mundane, but it's certainly not trivial.

We're not helpless if we're willing to get our hands dirty.

[1] From Wiktionary.com: "A variant of *return* with the 'U' replaced with 'V' in order to create an Ancient Roman appearance, reminiscent of fashwave memes *circa* late 2010s." Accessed 11 February 2025

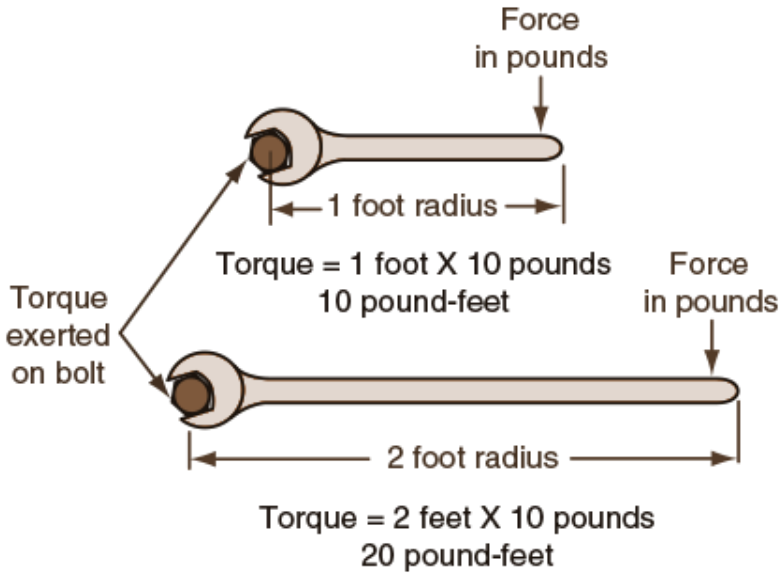
Fixing things says: this is mine, I take responsibility for it. Sure, you can call a professional to do the actual fixing, but you still have to take action – the call needs to be made first. There aren't vigilante plumbers scouring the nation for drippy faucets, making sure you never have to worry about the place where you live. Extending the metaphor, no politician is going to do that either. I'm very skeptical of those who say they will. Sitting back and relaxing after voting means trusting that our elected representatives will fix everything for us. If you're like me – that is, not a 1%er, not a lobbyist, more or less an average person – then you know pols often need more than a little prompting to keep our interests in mind.

Handing over the responsibility for fixing problems also hands over ownership of the situation – that is, power. Power doesn't always look like a judge on the bench or a cop with a gun. Power can also be red tape, it can be administrative, it can be boring. As David Graeber wrote, "It's almost as the more we allow aspects of our everyday existence to fall under the purview of bureaucratic regulations, the more everyone concerned colludes to downplay the fact (perfectly obvious to those actually running the system) that all of it ultimately depends on the threat of violence."[2] The difference between renting and buying might seem like a mere matter of preference (assuming buying is even a possibility for you financially), but when we own nothing, when our only responsibility to our lives is to be subservient to the bosses and moguls with actual rights to our stuff and our time, the direness becomes more apparent.

[2] David Graeber, "Beyond Power / Knowledge." Davidgraeber.org. Accessed 14 February 2025

Tip:

Be sure to follow torque specifications for safety-critical components, anything with a gasket, and anything that moves. Even when doing something as simple as changing spark plugs, over-torquing a bolt on the cylinder head can ruin your engine. A lot of parts on cars nowadays are made of “beer-can aluminum,” as one instructor of mine was fond of saying – they warp easily.



This is not an apology for cars or consumer products in general, but an acknowledgement that few, if any, of us are in a position to eschew them entirely. I know only enough about anarcho-primitivists to know that I am not one, and this zine does not address the (many, valid) critiques of automobiles. Studying how to fix cars obviously reveals a certain affection for those wheezing metal beasts, but maybe the thing you want to

fix is different: household appliances, or more complicated systems like your fractured real-life social network.

Plenty of ink has been spilled on the topic of consumer culture. Here in the so-called first world, it's the default mode of life – so much so that manufacturers have stopped giving people the option to fix things when they break. Our clothes aren't meant to be tailored, so they are produced without adequate seam allowances; farm equipment is designed with proprietary software that only authorized technicians are able to access.

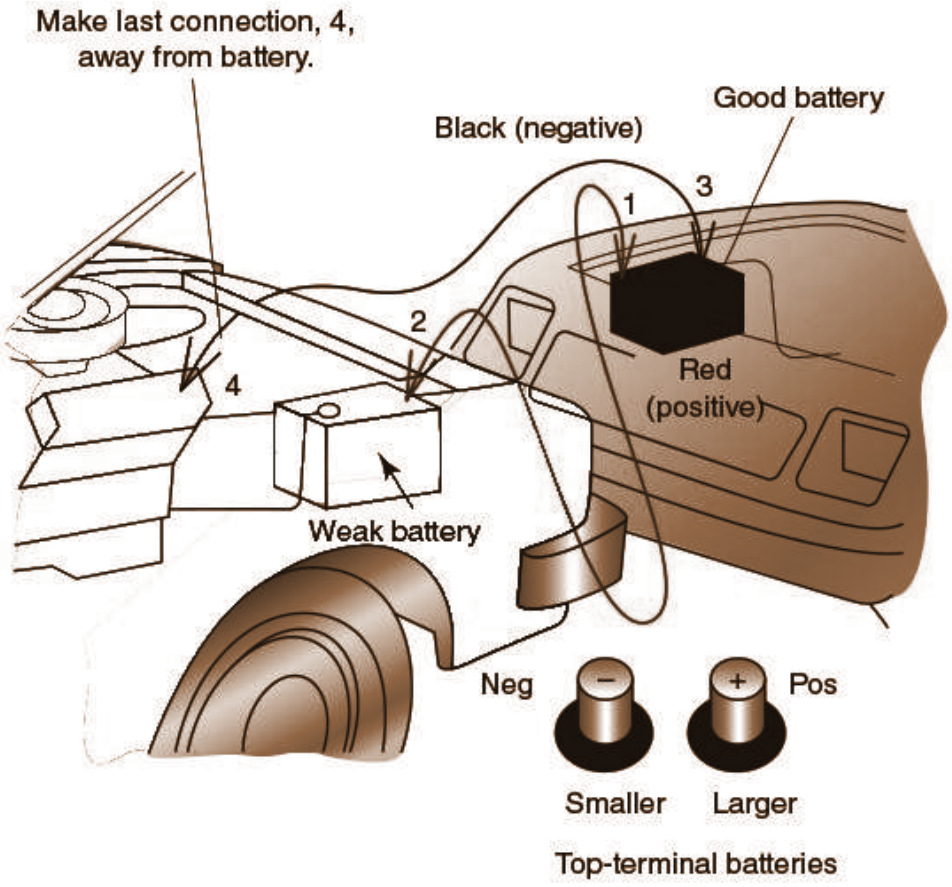
The fixability of cars has gone, and keeps going, down. While this isn't entirely sinister – new safety features really are much better than the older tech – it's no accident that many "innovations" are manufacturer-specific, compelling car owners to visit dealerships for service. Several states in the US have moved to codify the Right to Repair, with mixed results. For example, New York's Right to Repair bill only passed in weakened form after extensive industry lobbying.[3] Maine voters approved an automotive Right to Repair law in 2023, although at the time of writing, automakers are still trying to block it from coming into effect.[4] Even if the corporations don't get their way, I don't think these laws are geared toward DIYers – there's not a lot the average person can do with vehicle telematics data. Indeed, legislation regarding the Right to Repair often specifically names independent repair shops as the intended beneficiaries of such changes.

[3]Andrew Cunningham, "New York governor signs modified right-to-repair bill at the last minute." Arstechnica.com. Accessed 12 February 2025

[4] Chris Wade, "Automakers sue to block Maine's 'right to repair' law." AOL.com. Accessed 11 February 2025

Tip:

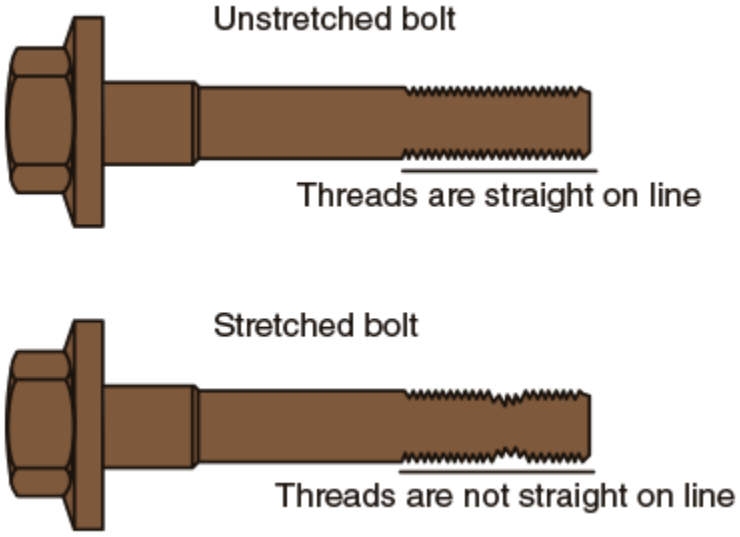
Did you know that all bare metal parts on a car are connected to the ground-side of the circuit? That's why, to jump-start a car, after connecting the positive clamps to the corresponding terminals on the healthy and dead batteries, you can connect one negative clamp to the negative terminal of the healthy battery, and the other to a bare metal bolt on the chassis of the dead car. (Of course, you could just connect the final clamp to the negative terminal on the dead battery, but since there's an outside chance of the battery exploding in your face, it's technically not recommended.)



This siloing of expertise and ability into the hands of giant companies touches every part of our lives today. In his book on

the topic, Yanis Varoufakis described our current age as "technofeudalism," arguing that traditional capitalism ended when the tech giants took over. Under a technofeudalist paradigm, "profit, the engine of capitalism, has been replaced with its feudal predecessor: rent."[5] Even fridges are being sold with software nowadays – managed, of course, with a fee-based license.

Technology has the potential to both free and enslave. Which is more likely when Google is in charge of everything? I don't want to be hyperbolic here, but: Zuck and Bezos and them want us crawling on our knees, begging for the scraps they have to offer. What's at stake here is ownership of our lives. By adopting a hands-on approach, we can be better equipped to notice when the powers that be chip away at our ownership in the name of convenience or progress.



[5] Yanis Varoufakis, *Technofeudalism - What Killed Capitalism*. 2023.

A tip from my mechanic school teacher that's generally applicable in life: Read The Fucking Manual. No fair complaining that you're stuck on a problem when you tossed the instructions aside.

There's a time for creative problem-solving, and it's not "immediately" and "always." You need to understand a matter fully first. Ignorance left willfully unaddressed is just hubris. Be it in fibercrafts or local politics (looking at you, fellow whites), there may be aspects you're not considering.

Don't reinvent the wheel. You probably have good ideas – so good, in fact, that someone else agrees with you, has already tried it, and wrote down their insights. For technical matters, sometimes small details like a torque sequence can have a huge impact on the end result. Your project may even fail for overlooking a simple spec that was right there in black and white.

If you're thinking, "But there's no manual for X!", libraries and archives are your friends. You can find many things for free online, from Ford owner's manuals to the Combahee River Collective statement. Upload your own manuals to the Internet Archive – it's free and can help others!

One day in class, doing battery inspections and cleanings, I discovered that the battery tray of my new(-to-me) car was entirely rusted underneath; there was no hope of getting those decroded screws undone without potentially breaking something. I asked the instructor what was to be done about it. “Nothing,” he said. “Just get as many miles out of the car as you can.”

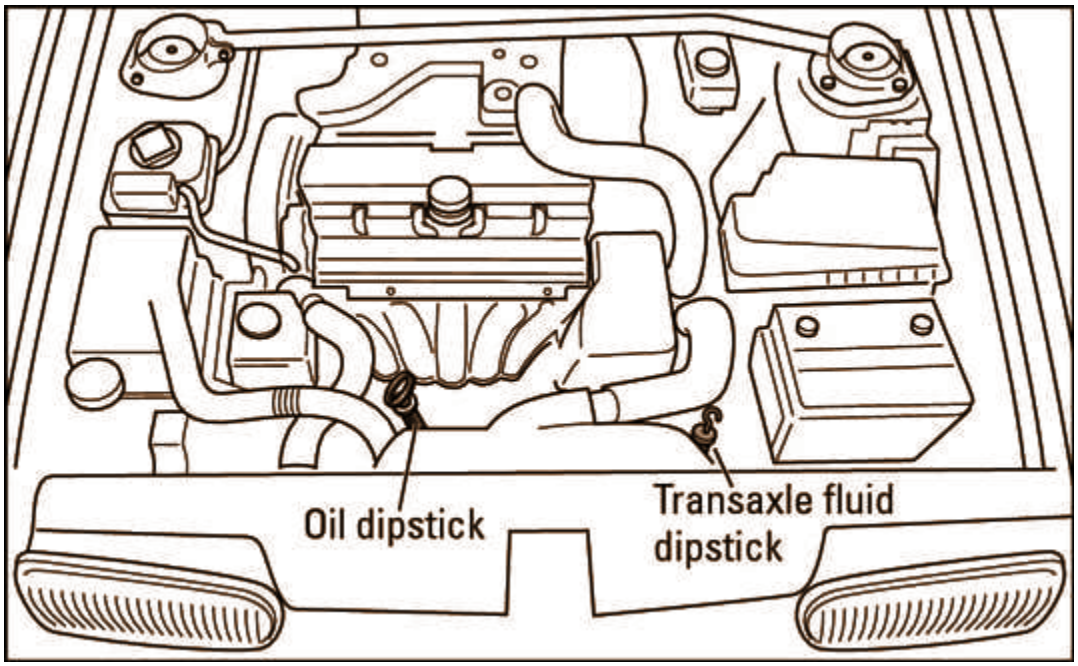
Not everything can be fixed. “The system isn’t broken, it’s working exactly as intended” is a saying I sometimes hear. It means: Crony capitalism, Trumpism, or whatever other supposedly new phenomenon is not what broke this country; it was already decroded by genocide, slavery and countless other atrocities over the last two and a half centuries. When I talk about fixing the world, I’m not talking about a state with borders. I’m talking about life, how we move within it, and our impact on the objects we rely on every day.

Tip:

Internal combustion engines are powered by dozens of explosions every second; the fact that they work at all is kind of incredible. To keep your engine happy, it needs to stay cool and lubricated.

Overheating is indicated by the gauge with this symbol; another symptom of insufficient coolant is a lack of heat in the passenger compartment, since waste heat from the engine is used to keep you warm.

Check your oil every now and then by popping the hood of your car and pulling the dipstick. Wipe it clean first (since sloshing may have coated it above the true reading), then stick it back in and pull it out again. Markings on the end of the stick should indicate the approved levels.



Despite this illustration, most new cars do not have a stick for checking the transmission/transaxle fluid, allegedly because the manufacturers do not trust the average driver to interpret the results correctly... There's still a way to do it, of course, if you have a ratchet set and a copy of the service manual (many can be found online).

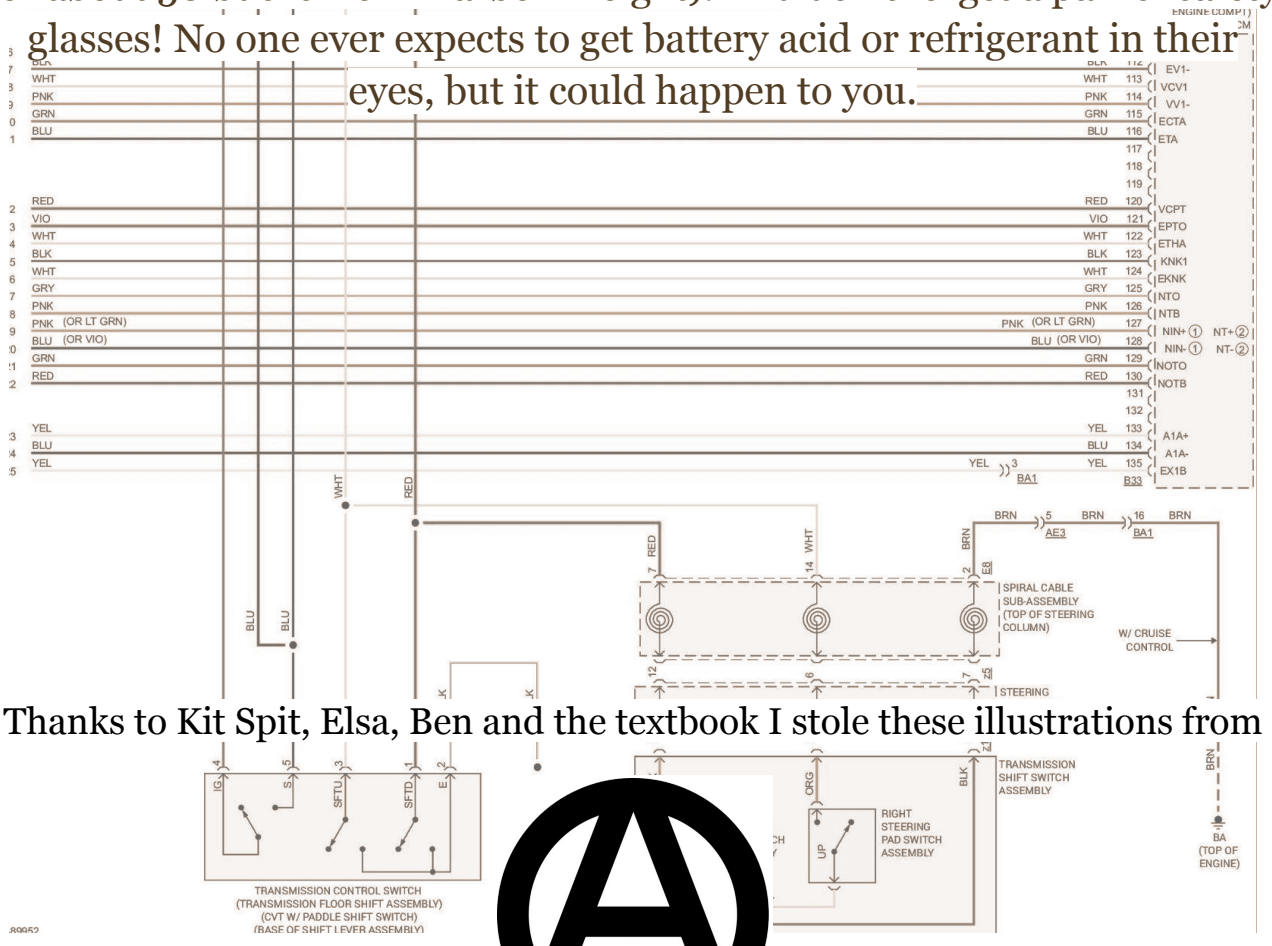
Most people start wrenching because it's fun – there's something satisfying about the tactile work, about coaxing a dead machine back to life with elbow grease. But nowadays, the job isn't just mechanical tinkering. Unless you're working exclusively on vintage cars, many problems with cars involve electrical diagnosis, looking up trouble codes and interpreting square waves. It can be tedious, but to make it in the profession, you still have to have fun with it.

It's hard to feel joy and pleasure when the dysfunction is existential rather than automotive, but joy and pleasure are vital. Being miserable won't make you a more righteous person, and having fun isn't disrespectful to all the bad shit going on. What's the point of fixing the world if we don't even enjoy it?

Tip:

To start wrenching, you need tools. If where you live has a tool library, great! If not, why not look into forming one? If you don't feel confident setting up a community resource, you can at least create a network to share with your friends.

As for the tools themselves, you could easily spend thousands of dollars on lifetime-warranty equipment, or you could find dirt-cheap versions on Amazon. The former is unnecessary for your average DIYer, the latter a recipe for getting burned by fakes and knock-offs. The most affordable ratchet-and-socket set, torque wrench and code reader from a reputable brand will do you well (at the time of writing, you can find each of those for about 50 bucks from Harbor Freight). And don't forget a pair of safety glasses! No one ever expects to get battery acid or refrigerant in their eyes, but it could happen to you.



Thanks to Kit Spit, Elsa, Ben and the textbook I stole these illustrations from